

What is claimed is:

1           1.       A method for analyzing process data, said method comprising:  
2                   displaying said process data in a first image, said first image representing  
3       first and second dimensions associated with said process data;

4                   displaying said process data in a second image, said second image  
5       representing a third dimension associated with said process data;

6                   receiving a region of interest (ROI) selected from one of said first image  
7       and said second image, wherein said ROI can be from said first image or from said  
8       second image;

9                   calculating a first subset of said process data, said first subset comprising  
10      values present in said selected ROI; and

11                  redrawing one of said first image and said second image based upon said  
12      first subset of said process data, wherein said first image is redrawn if said ROI is from  
13      said second image and said second image is redrawn if said ROI is from said first image.

1           2.       The method for analyzing process data of claim 1, wherein one of  
2       said first, second, and third dimensions comprising at least one of a process dimension, a  
3       time dimension, and a type of procedure dimension.

1           3.       The method for analyzing process data of claim 1, said first image  
2       and said second image each comprising at least one of a two-dimensional map and a one-  
3       dimensional graph.

1           4.       The method for analyzing process data of claim 1, said first image  
2       and said second image comprising a first two-dimensional map and a second two  
3       dimensional map indicating four-dimensional data.

1           5.       The method for analyzing process data of claim 1, said first image  
2       and said second image each comprising a 2D-scatter graph indicating a distribution of  
3       said process data.

1           6.       The method for analyzing process data of claim 5, said one-  
2       dimensional graph comprising at least one of a bar graph and a line graph.

1                   7.       The method for analyzing process data of claim 1, further  
2 comprising indicating at least one correlation between said three dimensions using a third  
3 image.

1                   8.       The method for analyzing process data of claim 7, further  
2 comprising displaying at least two of said first image, said second image and said third  
3 image on a computer screen.

1                   9.       A method for analyzing clinical pathways, said method  
2 comprising:

3                   providing a two dimensional presentation of clinical data and a one  
4 dimensional presentation of said clinical data, thereby enabling visualization of said  
5 clinical data in at least one of three or more dimensions, including a patient dimension, a  
6 time dimension, and a procedure dimension;

7                   receiving a selection of a region of interest (ROI), said selection from at  
8 least one of said two dimensional presentation and said one dimensional presentation,  
9 wherein said ROI can be from said two dimensional presentation or from said one  
10 dimensional presentation;

11                  calculating a first subset of said process data, said first subset comprising  
12 values present in said ROI along at least one of said three dimensions; and

13                  redrawing one of said two dimensional presentation and said one  
14 dimensional presentation based upon said first subset of said process data, wherein said  
15 two dimensional presentation is redrawn if said ROI is from said one dimensional  
16 presentation and said one dimensional presentation is redrawn if said ROI is from said  
17 second presentation.

1                   10.      The method for analyzing clinical pathways of claim 9, said two  
2 dimensional presentation comprising a map.

1                   11.      The method for analyzing clinical pathways of claim 9, said one  
2 dimensional presentation comprising a graph.

1                   12. A computer program product for analyzing process data, said  
2 computer program product comprising:  
3                   code that displays said process data in a first image, said first image  
4 representing first and second dimensions associated with said process data;  
5                   code that displays said process data in a second image, said second image  
6 representing a third dimension associated with said process data;  
7                   code that receives a region of interest (ROI) selected from one of said first  
8 image and said second image, wherein said ROI can be from said first image or from said  
9 second image;  
10                  code that calculates a first subset of said process data, said first subset  
11 comprising values present in said ROI along at least one of said three dimensions;  
12                  code that redraws said first image based upon said first subset of said  
13 process data if said ROI is from said second image;  
14                  code that redraws said second image based upon said first subset of said  
15 process data if said ROI is from said first image; and  
16                  a computer readable storage device for containing the codes.

1                   13. An apparatus for analyzing process data, said apparatus  
2 comprising:  
3                  a processor,  
4                  a display device,  
5                  a persistent storage, and  
6                  a bus, said bus interconnecting said processor, said display device and said  
7 persistent storage, wherein said processor:  
8                  displays said process data in a first image, said first image representing  
9 first and second dimensions associated with said process data;  
10                 displays said process data in a second image, said second image  
11 representing a third dimension associated with said process data;  
12                 receives a region of interest (ROI) selected from one of said first image  
13 and said second image, wherein said ROI can be from said first image or from said  
14 second image;  
15                 calculates a first subset of said process data, said first subset comprising  
16 values present in said ROI along at least one of said three dimensions; and

17                    redraws one of said first image and said second image based upon said  
18    first subset of said process data, wherein said first image is redrawn if said ROI is from  
19    said second image and said second image is redrawn if said ROI is from said first image.

1                    14.    An apparatus for analyzing process data, said apparatus  
2    comprising:

3                    means for displaying said process data in a first image, said first image  
4    representing first and second dimensions associated with said process data;

5                    means for displaying said process data in a second image, said second  
6    image representing a third dimension associated with said process data;

7                    means for receiving a region of interest (ROI) selected from one of said  
8    first image and said second image, wherein said ROI can be from said first image or from  
9    said second image;

10                  means for calculating a first subset of said process data, said first subset  
11   comprising values present in said ROI along at least one of said three dimensions; and

12                  means for redrawing one of said first image and said second image based  
13   upon said first subset of said process data, wherein said first image is redrawn if said ROI  
14   is from said second image and said second image is redrawn if said ROI is from said first  
15   image.

1                    15.    A system for analyzing process data, said system comprising:

2                    a database server,

3                    an application client, in communication with said application server,

4                    an application server, in communication with said application server and  
5    said application client; wherein

6                    said application server abstracts said process data stored in said database  
7    server into at least three dimensions and forwards said abstracted process data to said  
8    application client; and wherein

9                    said application client provides a plurality of images, including a first  
10   image and a second image, said plurality of images enabling visualization of said process  
11   data in at least one of said three dimensions; wherein at least one correlation between at  
12   least two of said three dimensions is indicated using said first image and a quantity  
13   measure in at least one of said three dimensions is indicated using said second image; and  
14   wherein

15                   said application client receives a selection of at least one region of interest  
16 (ROI) selected from one of said first image and said second image, wherein said ROI can  
17 be from said first image or from said second image; and wherein

18                   said application client calculates a first subset of said process data, said  
19 first subset comprising values present in said ROI along at least one of said three  
20 dimensions; and wherein

21                   said application client redraws at least one of said first image and said  
22 second image based upon said first subset of said process data, wherein said first image is  
23 redrawn if said ROI is from said second image and said second image is redrawn if said  
24 ROI is from said first image.

1                 16.    A method for analyzing process data, said method comprising:  
2                   abstracting said process data into at least three dimensions;  
3                   providing a plurality of visualization devices, including a first visualization  
4 device and a second visualization device, said plurality of visualization devices enabling  
5 visualization of said process data in at least one of said three dimensions;

6                   indicating at least one correlation between at least two of said three  
7 dimensions in said first visualization device;

8                   indicating a quantity measure by at least one of said three dimensions in  
9 said second visualization device;

10                  receiving a selection of at least one of a plurality of regions of interest  
11 (ROI), said selection from at least one dimension chosen from among said three  
12 dimensions, said selection indicated on at least one of said first visualization device and  
13 said second visualization device, wherein said ROI can be from said first visualization  
14 device or from said second visualization device;

15                  calculating a first subset of said process data, said first subset comprising  
16 values present in said ROI; and

17                  redrawing said first visualization device if said ROI is from said second  
18 visualization device and redrawing said second visualization device if said ROI is from  
19 said first visualization device.

1                   17.     The method of claim 16 further comprising:  
2                   receiving a second selection of at least one of said plurality of regions of  
3     interest (ROI), said second selection from at least one dimension chosen from among said  
4     three dimensions, said second selection indicated on at least one of said first visualization  
5     device and said second visualization device;

6                   calculating a second subset of said process data, said second subset  
7     comprising values present in said second selection of at least one of said plurality of  
8     regions of interest along at least one of said three dimensions; and

9                   displaying said first subset of said process data and said second subset of  
10    said process data together using at least one of said first visualization device and said  
11    second visualization device.

1                   18.     A method for analyzing process data, said method comprising:  
2                   abstracting said process data into at least three dimensions;  
3                   providing a plurality of visualization devices, including a first visualization  
4     device and a second visualization device, said plurality of visualization devices enabling  
5     visualization of said process data in at least one of said three dimensions;

6                   indicating at least one correlation between at least two of said three  
7     dimensions in said first visualization device;

8                   indicating a quantity measure by at least one of said three dimensions in  
9     said second visualization device;

10                  receiving a selection of at least one of a plurality of regions of interest  
11     (ROI), said selection from at least one dimension chosen from among said three  
12     dimensions, said selection indicated on at least one of said first visualization device and  
13     said second visualization device, wherein said ROI can be from said first visualization  
14     device or from said second visualization device;

15                  calculating a first subset of said process data, said first subset comprising  
16     values present in said ROI; and

17                  redrawing said first visualization device if said ROI is from said second  
18     visualization device and redrawing said second visualization device if said ROI is from  
19     said first visualization device.

1                   19.     The method of claim 18 further comprising:  
2                   receiving a second selection of at least one of said plurality of regions of  
3     interest (ROI), said second selection from at least one dimension chosen from among said  
4     three dimensions, said second selection indicated on at least one of said first visualization  
5     device and said second visualization device;

6                   calculating a second subset of said process data, said second subset  
7     comprising values present in said second selection of at least one of said plurality of  
8     regions of interest along at least one of said three dimensions; and

9                   applying a function to said first subset of said process data and said second  
10    subset of said process data, yielding a third subset of said process data; and

11                  displaying said third subset of said process data together using at least one  
12    of said first visualization device and said second visualization device.

1                   20.    A method for analyzing process data, said method comprising:  
2                   abstracting said process data into at least three dimensions;  
3                   providing a plurality of visualization devices, including a first visualization  
4     device and a second visualization device, said plurality of visualization devices enabling  
5     visualization of said process data in at least one of said three dimensions;

6                   indicating at least one correlation between at least two of said three  
7     dimensions in said first visualization device;

8                   indicating a quantity measure by at least one of said three dimensions in  
9     said second visualization device;

10                  receiving a selection of at least one of a plurality of regions of interest  
11    (ROI), said selection from at least one dimension chosen from among said three  
12    dimensions, said selection indicated on at least one of said first visualization device and  
13    said second visualization device;

14                  calculating a first subset of said process data, said first subset comprising  
15    values present in said ROI; and

16                  redrawing at least one of said first visualization device and said second  
17    visualization device based upon said first subset of said process data, wherein said first  
18    visualization device is redrawn if said ROI is from said second visualization device and  
19    said second visualization device is redrawn if said ROI is from said first visualization  
20    device.

1                   21. The method of claim 20 further comprising displaying at least one  
2 of a plurality of categorizations of at least one of said three dimensions of said process  
3 data in at least one of said first visualization device and said second visualization device.

1                   22. A method for analyzing process data, said method comprising:  
2                   abstracting said process data into at least three dimensions;  
3                   providing a plurality of visualization devices, including a first visualization  
4 device and a second visualization device, said plurality of visualization devices enabling  
5 visualization of said process data in at least one of said three dimensions;  
6                   indicating at least one correlation between at least two of said three  
7 dimensions in said first visualization device;  
8                   indicating a quantity measure by at least one of said three dimensions in  
9 said second visualization device;  
10                  receiving a selection of at least one of a plurality of regions of interest  
11 (ROI), said selection from at least one dimension chosen from among said three  
12 dimensions, said selection indicated on at least one of said first visualization device and  
13 said second visualization device;  
14                  calculating a first subset of said process data, said first subset comprising  
15 values present in said ROI;  
16                  receiving a second selection of at least one of said plurality of regions of  
17 interest (ROI), said second selection from at least one dimension chosen from among said  
18 three dimensions, said second selection indicated on at least one of said first visualization  
19 device and said second visualization device;  
20                  calculating a second subset of said process data, said second subset  
21 comprising values present in said second selection of at least one of said plurality of  
22 regions of interest along at least one of said three dimensions;  
23                  applying a function to said first subset of said process data and said second  
24 subset of said process data, yielding a third subset of said process data; and  
25                  displaying said third subset of said process data together using at least one  
26 of said first visualization device and said second visualization device,  
27                  said function comprising at least one of an addition, a subtraction, a  
28 multiplication, an exponentiation, a division, a root, a boolean operator, a modulo, and an  
29 absolute value.

1                   23.     A method for analyzing process data, said method comprising:  
2                   abstracting said process data into at least three dimensions;  
3                   providing a plurality of visualization devices, including a first visualization  
4     device and a second visualization device, said plurality of visualization devices enabling  
5     visualization of said process data in at least one of said three dimensions;  
6                   indicating at least one correlation between at least two of said three  
7     dimensions in said first visualization device;  
8                   indicating a quantity measure by at least one of said three dimensions in  
9     said second visualization device;  
10                  receiving a selection of at least one of a plurality of regions of interest  
11     (ROI), said selection from at least one dimension chosen from among said three  
12     dimensions, said selection indicated on at least one of said first visualization device and  
13     said second visualization device;  
14                  calculating a first subset of said process data, said first subset comprising  
15     values present in said ROI;  
16                  receiving a second selection of at least one of said plurality of regions of  
17     interest (ROI), said second selection from at least one dimension chosen from among said  
18     three dimensions, said second selection indicated on at least one of said first visualization  
19     device and said second visualization device;  
20                  calculating a second subset of said process data, said second subset  
21     comprising values present in said second selection of at least one of said plurality of  
22     regions of interest along at least one of said three dimensions;  
23                  applying a function to said first subset of said process data and said second  
24     subset of said process data, yielding a third subset of said process data; and  
25                  displaying said third subset of said process data together using at least one  
26     of said first visualization device and said second visualization device,  
27                  said third subset of said process data displayed using at least one of a  
28     plurality of different colors, a plurality of different intensities of a color, a plurality of  
29     different intensities of a plurality of different colors.